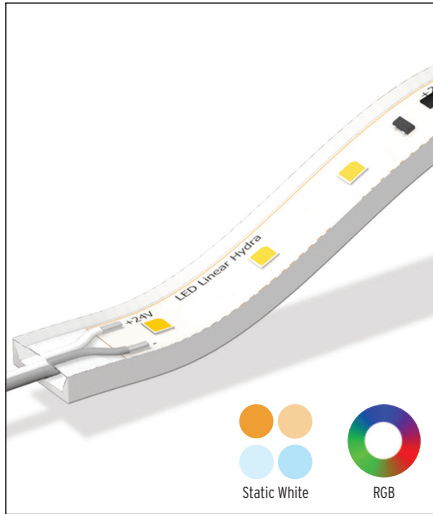


HYDRA LD IP67 Static White/RGB



24 V flexible outdoor rated linear LED tape delivered in custom lengths up to 24.6 ft (7.5m). Polyurethane encapsulation offers a premium water proof sealing, UV resistance, chemical stability against urban gases and protection against abrasion. White lower casing for better light extraction thus higher efficacy. Delivered complete with IP67 mini connectors on both ends. Reel-to-Reel (R2R) produced flexible circuit board material with LED Linear™ Tj Away® technology for optimal heat management. Constant light output and extended lifetime thanks to an integrated circuit (IC) driver regulation. One Bin Only® top quality LED's with 120° beam angle and excellent color rendering up to CRI 95. 3 step MacAdam ellipse guarantees consistent color temperature and light quality at a life-time of >60,000 hrs L80/B10 and >30,000 hrs for RGB. Extended 6 digit photometric code ensures color consistency over the rated lifetime. Fully dimmable. Engineered and manufactured in Germany.

Project name _____

Fixture type _____ Phase _____

Specifier _____ Date _____

24 Select Models Only

ETL Intertek ETL Listed

Integrated Circuit Driver
Up to 514 lm/ft 112 lm/W constant light output

Reel-to-Reel R2R Production
High Quality Solder Free Reels

Tj Away® Thermal Management
Exceptional Thermal Dissipation

One Bin Only
3 MacAdam up to 95 CRI

L/B Lifetime
L80/B10 >60,000 hrs /RGB >30,000 hrs

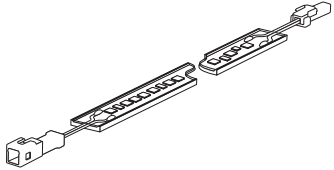
6 Digit Photometric Code
Wxxx/339

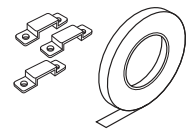
IES LM79/LM80
LM79/LM80 Compliant

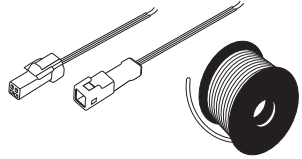
LD - Low LED Density

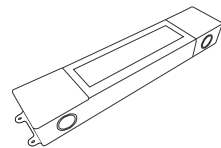
Ordering Process

Step 1 | **Step 2** | **Step 3** | **Step 4**

 **LED Tape Custom Length** (Page 1)

 **Mounting Accessories** (Page 4)

 **Cables and Connectors** (Page 4)

 **Drivers and Controllers** (Page 5)

LED Tape Order Code

Family	Model	Lumen package*	Color rendering	Color temperature (Delivered)	Custom Length***	Ingress
VarioLED Flex	_____	LD__	W_	__	_____	IP67
	HYDRA - Static White	LD 5 -151 lm/ft	W 8 -85CRI	20 -2500K	L _{min} : 144 mm (5'-11/16")	
		LD 10 -252 lm/ft	W 9 -95CRI**	22 -2900K		
		LD 15 -514 lm/ft		25 -3300K	LD05 L _{max} : 7519 mm (24' 8")	
				27 -3800K (3600K for W9)	LD10 L _{max} : 5019 mm (16' 5-5/8")	
				30 -4300K (4300K for W9)	LD15 L _{max} : 4019 mm (13' 2-1/4")	
				35 -5100K (4900K for W9)		
					Increment: 125 mm (4-15/16")	
	RGB	LD 15 -143 lm/ft	-	-		

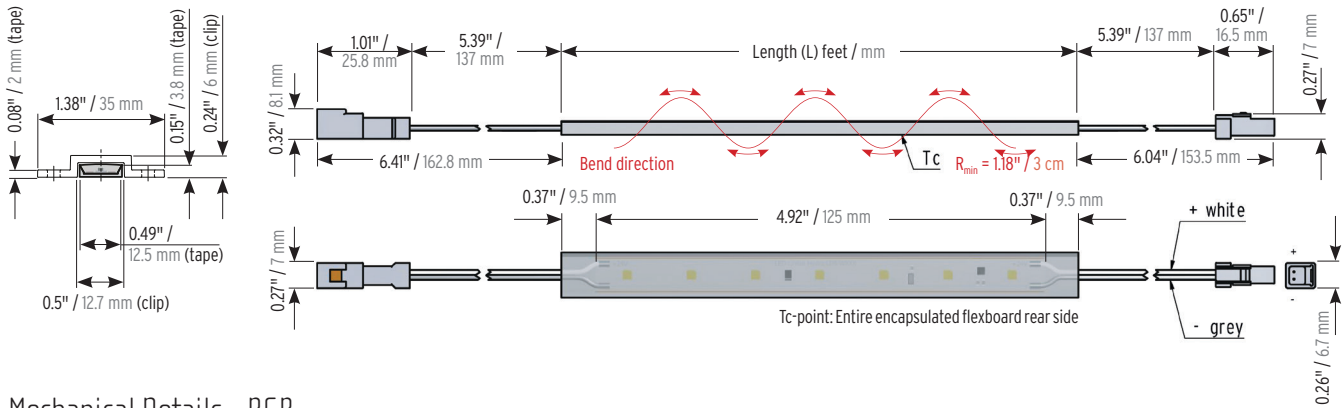
* Lumen Values represent 5100K (W835). ** Not available for LD15. *** Custom Length should be specified in millimeters (mm). See page 3 for all available lengths.

	Color temperature ^a	CCT (Delivered)	LD5		LD10		LD15	
			Lumen/ft	W/ft ^b	Lumen/ft	W/ft ^b	Lumen/ft	W/ft ^b
Static White	● W820	2,500 K	103	1.5	206	3.1	331	4.6
	● W822	2,900 K	118	1.5	237	3.1	380	4.6
	● W825	3,300 K	136	1.5	270	3.1	435	4.6
	● W827/W927	3,800 K/3,600 K	121	1.5	289	3.1	459	4.6
	● W830/W930	4,300 K/4,300 K	121	1.5	319	3.1	487	4.6
	● W835/W935	5,100 K/4,900 K	127	1.5	319	3.1	514	4.6
RGB	● RGB Red	622 nm	-	-	-	-	38	4.6
	● RGB Green	532 nm	-	-	-	-	88	4.6
	● RGB Blue	466 nm	-	-	-	-	17	4.6
	● RGB total	-	-	-	-	-	143	4.6

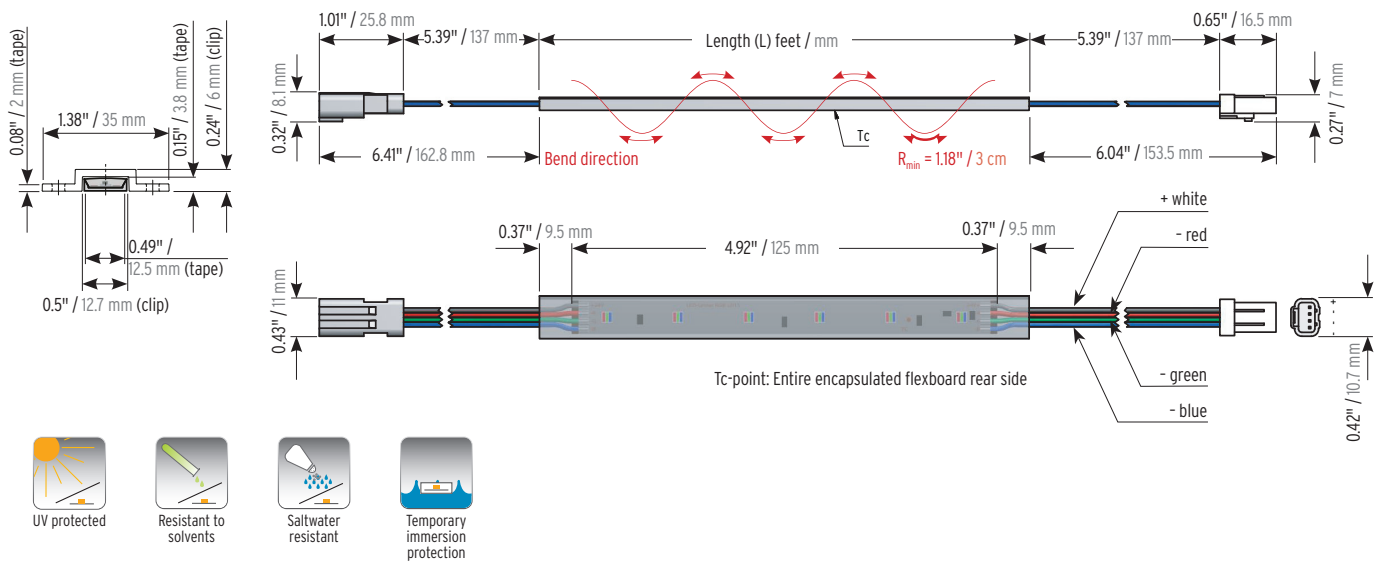
^a CCT tolerances occur in IP67 products due to the encapsulation of the fixture.

^b The given data are typical values. Due to tolerances of the production process and the electrical components, values for light output and electrical power can vary up to 10%.

Mechanical Details - Static White



Mechanical Details - RGB



Technical Details

	Static White	RGB
Step length	7 LEDs per 4.92" / 125 mm	6 LEDs per 4.92" / 125 mm
Voltage	24 Volt (23 V _{min} , 25 V _{max})	24 Volt (23 V _{min} , 25 V _{max})
Case temperature ^A	T _{Cmin} = -13°F / -25°C, T _{Cmax} = 158°F / 70°C	T _{Cmin} = -13°F / -25°C, T _{Cmax} = 158°F / 70°C
Storage temperature	T _{Smin} = -22°F / -30°C, T _{Smax} = 185°F / 85°C	T _{Smin} = -22°F / -30°C, T _{Smax} = 185°F / 85°C
Ambient temperature	T _{Amin} = -13°F / -25°C, T _{Amax} = 122°F / 50°C	T _{Amin} = -13°F / -25°C, T _{Amax} = 113°F / 45°C

^A The position of the Tc-point is marked on each step of the LED strip. The Tc-point should be measured in thermal equilibrium according to IEC EN 60598-1.

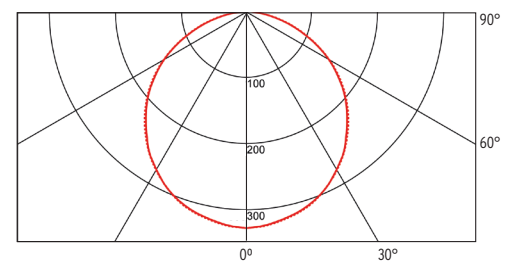
	Static White LD5	Static White LD10	Static White LD15	RGB LD15 (total)
Power (W/ft) ^B	1.5	3.1	4.6	4.6
Efficacy (lm / W) ^B @ W835	102	103	112	31
CRI / R9 @ 3000 K	95 / 65	85 / 25	85 / 25	-
Reel length (ft / m)	24.6 / 7.5	16.4 / 5	13.1 / 4	13.1 / 4

^B The given data are typical values. Due to tolerances of the production process and the electrical components, values for light output and electrical power can vary up to 10%.

Light Distribution

HYDRA LD IP67 - Static White

RGB





cd/1,000 lumen
 — C0/C180
 C90/C270

LENGTH CHART - Hydra LD IP67

Fixture length		Static White						RGB	
		LD5 1.5 Watts/Ft		LD10 3.0 Watts/Ft		LD15 4.6 Watts/Ft		LD15 4.6 Watts/Ft	
inches	mm	Watts/fixture	Lumens/fixture @W930K	Watts/fixture	Lumens/fixture @W830K	Watts /fixture	Lumens /fixture @W830K	Watts /fixture	Lumens /fixture
5.7	144	1	57	1	151	2	230	2	68
10.6	269	1	107	3	281	4	430	4	126
15.5	394	2	156	4	412	6	629	6	185
20.4	519	3	206	5	543	8	829	8	243
25.4	644	3	256	6	674	10	1029	10	302
30.3	769	4	305	8	805	12	1228	12	361
35.2	894	4	355	9	935	13	1428	13	419
40.1	1019	5	404	10	1066	15	1628	15	478
45.0	1144	6	454	11	1197	17	1827	17	537
50.0	1269	6	504	12	1328	19	2027	19	595
54.9	1394	7	553	14	1459	21	2227	21	654
59.8	1519	7	603	15	1589	23	2426	23	712
64.7	1644	8	652	16	1720	25	2626	25	771
69.7	1769	9	702	17	1851	27	2826	27	830
74.6	1894	9	752	19	1982	29	3025	29	888
79.5	2019	10	801	20	2113	30	3225	30	947
84.4	2144	11	851	21	2243	32	3425	32	1006
89.3	2269	11	901	22	2374	34	3624	34	1064
94.3	2394	12	950	24	2505	36	3824	36	1123
99.2	2519	12	1000	25	2636	38	4024	38	1182
104.1	2644	13	1049	26	2766	40	4223	40	1240
109.0	2769	14	1099	27	2897	42	4423	42	1299
113.9	2894	14	1149	28	3028	44	4623	44	1357
118.9	3019	15	1198	30	3159	46	4822	46	1416
123.8	3144	15	1248	31	3290	47	5022	47	1475
128.7	3269	16	1297	32	3420	49	5222	49	1533
133.6	3394	17	1347	33	3551	51	5421	51	1592
138.5	3519	17	1397	35	3682	53	5621	53	1651
143.5	3644	18	1446	36	3813	55	5821	55	1709
148.4	3769	19	1496	37	3944	57	6020	57	1768
153.3	3894	19	1545	38	4074	59	6220	59	1826
158.2	4019	20	1595	40	4205	61	6420	61	1885

Mounting Accessories

Item	Description	Dimensions (L x W x H)	Order Code
 Surface Mount Clip	Clear plastic mounting clips. Use to mount the product on hard surfaces. Sold as set of 50 pieces.	3/8" x 1-3/8" x 1/4"	13000115
 Adhesive Tape	Double sided 3M adhesive tape roll. Use to mount products on surfaces.	32' x 3/8"	182000035







Cables and Connectors

Item	Description	Model	Dimensions	Order Code
 Cable IP68 for Static White	Outdoor rated UL approved cable. Use to extend installation distance with outdoor rated splicing box (by others).	Static White	2 x 22 AWG, 160 ft	14000030
 Mini Female Connector IP67 for Static White	Use to run cable from the driver to the first fixture of the run or to the next fixture. Female mini connector on one side and open end cable on the other side.	Static White Static White	2 x 22 Awg, 8 in 2 x 22 Awg, 6.5 ft	15000141 15000142
 Mini Male Connector IP67 for Static White	Use to run cable from the fixture to the driver or to the previous fixture. Male mini connector on one side and open end cable on the other side.	Static White	2 x 22 Awg, 8 in	15000140
 Mini Extension IP67 for Static White	Use to extend the distance between connection points. Female connector on one side and male connector on the other side.	Static White Static White	2 x 22 Awg, 4 in 2 x 22 Awg, 6.5 ft	15000143 15000144
 Mini Female Protection Cap IP67 for Static White	Use to seal unused connectors and maintain IP67 ingress protection.	Static White	—	15000218
 Cable IP68 for RGB and Tunable White	Outdoor rated UL approved cable. Use to extend installation distance with outdoor rated splicing box (by others).	RGB / Tunable White RGB / Tunable White	4 x 23 Awg, 160 ft 4 x 18 Awg, 160 ft	14000048 14000060
 Mini Female Connector IP67 for RGB and Tunable White	Use to run cable from the driver to the first fixture of the run or to the next fixture. Female mini connector on one side and open end cable on the other side.	RGB Tunable White RGB / Tunable White	4 x 23 Awg, 8 in 4 x 23 Awg, 8 in 4 x 23 Awg, 6.5 ft	15000201 15000241 15000202
 Mini Male Connector IP67 for RGB and Tunable White	Use to run cable from the fixture to the driver or to the previous fixture. Male mini connector on one side and open end cable on the other side.	RGB Tunable White	4 x 23 Awg, 8 in 4 x 23 Awg, 8 in	15000200 15000240
 Mini Extension IP67 for RGB and Tunable White	Use to extend the distance between connection points. Female connector on one side and male connector on the other side.	Static White Static White	4 x 23 Awg, 4 in 4 x 23 Awg 6.5 ft	15000203 15000204
 Mini Female Protection Cap IP67 for RGB and Tunable White	Use to seal unused connectors and maintain IP67 ingress protection.	RGB / Tunable White	—	15000219

Drivers

Item	Specifications	Downloads
LED LINEAR™ Non-Dimmable Drivers 	<ul style="list-style-type: none"> • UL 8750 Listed Enclosure - With Built-In Junction Boxes • Universal Input Voltage 120V - 277V • IP65 - For Both Indoor and Outdoor Use • No Minimum Load Requirement • 24V Constant Voltage Output, Class 2 • Available in three wattages 30W, 60W and 96W • Max. Dimensions: 12-1/8" x 2-3/8" x 1-3/8" 	30 W SPEC SHEET 60 W SPEC SHEET 96 W SPEC SHEET INSTALLATION INSTRUCTIONS
LED LINEAR™ 0-10V Dimmable Drivers 	<ul style="list-style-type: none"> • UL 8750 Listed Enclosure - With Built-In Junction Boxes • 0-10V Dimmable - Flicker Free Down to 1% • Universal Input Voltage 120V - 277V • IP65 - For Both Indoor and Outdoor Use • 24V Constant Voltage Output, Class 2, Class P • Available in three wattages 30W, 60W and 96W • Max. Dimensions: 12-1/8" x 2-3/8" x 1-3/8" 	30 W SPEC SHEET 60 W SPEC SHEET 96 W SPEC SHEET INSTALLATION INSTRUCTIONS
LED LINEAR™ ELV/Triac Dimmable Drivers 	<ul style="list-style-type: none"> • UL 8750 Listed Class 2 Enclosure • 24V constant voltage output • Compact size yet high efficiency and performance in dry and damp environments (IP67) • Multiple Inputs: 120V or 277V • Fully dimmable: ELV Dimmers - Reverse or Adaptive Phase Control, Trailing Edge • Available in two wattages 48W and 96W • Multiple Circuits are available up to 4 units (up to 384W) 	48 W SPEC SHEET 96 W SPEC SHEET INSTALLATION INSTRUCTIONS
 PWM Dimmable Drivers 	<ul style="list-style-type: none"> • Universal AC input / Full range (up to 305VAC) • Constant voltage PWM style output • Built-in 3 in 1 dimming function (0-10Vdc or PWM signal or resistance) • Dimming range : 0-100% • Class 2 power unit • Suitable for dry / damp / wet locations • UL Recognized component, 5 years warranty 	40 W SPEC SHEET 60 W SPEC SHEET 90 W SPEC SHEET INSTALLATION INSTRUCTIONS
 Dimmable Drivers 	<ul style="list-style-type: none"> • UL Listed Enclosure • Dimming Range: 100% to 1% and 0.1% (Premiere) • LED lighting turns on to any dimmed level without flashing to full brightness • Operating Voltage: 120V~ to 277V~ at 50/60 Hz • Rated lifetime of 50,000 hours at 40°C (104°F) ambient temperature and maximum loading • For rated warranty, ambient temperature not to exceed 40°C (104°F) • Open-circuit protected output 	HI-LUME SPEC SHEET HI-LUME PREMIERE SPEC SHEET INSTALLATION INSTRUCTIONS
eldoLED DALI/DMX Dimmable Drivers 	<ul style="list-style-type: none"> • Available in linear or rectangular format • 100W, DMX/DALI interface for Static White, Tunable White and RGB/W Applications • 4 control channels • 24V constant voltage, 4 x 24V outputs • Metal or plastic case options 	100 W SPEC SHEET INSTALLATION INSTRUCTIONS

Controllers

Item	Specifications	Downloads
	180/D DMX Controller for RGB/W and Tunable White Applications	180/D SPEC SHEET
	210/D Dali Controller for Static White Applications	210/D SPEC SHEET
	211/D-LG 0-10V Logarithmic Dimming Controller	211/D-LG SPEC SHEET
	211/D-LN 0-10V Linear Dimming Controller	211/D-LN SPEC SHEET
	212/D DMX Controller for Static White and Static Color Applications	212/D SPEC SHEET
	DimWheel DMX Wall Controller for RGB/W and Tunable White Applications	DIM WHEEL SPEC SHEET

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PRODUCT BROCHURE

INSTALLATION

IES FILES

DRIVERS & CONTROLS

LED LINEAR TECHNOLOGY

VOLTAGE DROP CALCULATOR